This Page Is Inserted by IFW Operations and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents will not correct images, please do not report the images to the Image Problem Mailbox.



Sequence Listing

<110				ober Qun										
<120	> HU	MAN	DNAS	ΕI	НҮРЕ	RACT	IVE	VARI	ANTS					
<130	> P1	042C	1											
<140 <141				306										
<150 <151				831										
<160	> 17													
<210: <211: <212: <213:	> 26 > PR'	Г	apie:	ns										
<400 Leu 1		Ile	Ala	Ala 5	Phe	Asn	Ile	Gln	Thr 10	Phe	Gly	Glu	Thr	Lys 15
Met	Ser	Asn	Ala	Thr 20	Leu	Val	Ser	Tyr	Ile 25	Val	Gln	Ile	Leu	Ser 30
Arg	Tyr	Asp	Ile	Ala 35	Leu	Val	Gln	Glu	Val 40	Arg	Asp	Ser	His	Leu 45
Thr	Ala	Val	Gly	Lys 50	Leu	Leu	Asp	Asn	Leu 55	Asn	Gln	Asp	Ala	Pro 60
Asp	Thr	Tyr	His	Tyr 65	Val	Val	Ser	Glu	Pro 70	Leu	Gly	Arg	Asn	Ser 75
Tyr	Lys	Glu	Arg	Tyr 80	Leu	Phe	Val	Tyr	Arg 85	Pro	Asp	Gln	Val	Ser 90
Ala	Val	Asp	Ser	Tyr 95	Туг	Туг	Asp	Asp	Gly 100	Суѕ	Glu	Pro	Суз	Gly 105
Asn	Asp	Thr	Phe	Asn 110	Arg	Glu	Pro	Ala	Ile 115	Val	Arg	Phe	Phe	Ser 120
Arg	Phe	Thr	Glu	Val 125	Arg	Glu	Phe	Ala	Ile 130	Val	Pro	Leu	His	Ala 135
Ala	Pro	Gly	Asp	Ala 140	Val	Ala	Glu	Ile	Asp 145	Ala	Leu	Tyr	Asp	Val 150

```
155
 Met Gly Asp Phe Asn Ala Gly Cys Ser Tyr Val Arg Pro Ser Gln
                                     175
 Trp Ser Ser Ile Arg Leu Trp Thr Ser Pro Thr Phe Gln Trp Leu
 Ile Pro Asp Ser Ala Asp Thr Thr Ala Thr Pro Thr His Cys Ala
 Tyr Asp Arg Ile Val Val Ala Gly Met Leu Leu Arg Gly Ala Val
                 215
 Val Pro Asp Ser Ala Leu Pro Phe Asn Phe Gln Ala Ala Tyr Gly
                 230
                                     235
 Leu Ser Asp Gln Leu Ala Gln Ala Ile Ser Asp His Tyr Pro Val
                 245
Glu Val Met Leu Lys
                 260
<210> 2
<211> 260
<212> PRT
<213> Homo sapiens
<400> 2
Leu Lys Ile Ala Ala Phe Asn Ile Arg Thr Phe Gly Glu Thr Lys
                   5
Met Ser Asn Ala Thr Leu Val Ser Tyr Ile Val Gln Ile Leu Ser
                  20
Arg Tyr Asp Ile Ala Leu Val Gln Glu Val Arg Asp Ser His Leu
Thr Ala Val Gly Lys Leu Leu Asp Asn Leu Asn Gln Asp Ala Pro
Asp Thr Tyr His Tyr Val Val Ser Glu Pro Leu Gly Arg Asn Ser
Tyr Lys Glu Arg Tyr Leu Phe Val Tyr Arg Pro Asp Gln Val Ser
Ala Val Asp Ser Tyr Tyr Tyr Asp Asp Gly Cys Glu Pro Cys Gly
Asn Asp Thr Phe Asn Arg Glu Pro Ala Ile Val Arg Phe Phe Ser
                 110
                                     115
```

Tyr Leu Asp Val Gln Glu Lys Trp Gly Leu Glu Asp Val Met Leu

```
Arg Phe Thr Glu Val Arg Glu Phe Ala Ile Val Pro Leu His Ala
                 125
                                      130
 Ala Pro Gly Asp Ala Val Ala Glu Ile Asp Ala Leu Tyr Asp Val
 Tyr Leu Asp Val Gln Glu Lys Trp Gly Leu Glu Asp Val Met Leu
 Met Gly Asp Phe Asn Ala Gly Cys Ser Tyr Val Arg Pro Ser Gln
                 170
 Trp Ser Ser Ile Arg Leu Trp Thr Ser Pro Thr Phe Gln Trp Leu
                 185
                                      190
 Ile Pro Asp Ser Ala Asp Thr Thr Ala Thr Pro Thr His Cys Ala
                 200
                                      205
 Tyr Asp Arg Ile Val Val Ala Gly Met Leu Leu Arg Gly Ala Val
                 215
                                      220
                                                          225
 Val Pro Asp Ser Ala Leu Pro Phe Asn Phe Gln Ala Ala Tyr Gly
                 230
                                     235
 Leu Ser Asp Gln Leu Ala Gln Ala Ile Ser Asp His Tyr Pro Val
                 245
                                      250
                                                          255
Glu Val Met Leu Lys
                 260
<210> 3
<211> 260
<212> PRT
<213> Homo sapiens
<400> 3
Leu Lys Ile Ala Ala Phe Asn Ile Gln Thr Phe Gly Lys Thr Lys
Met Ser Asn Ala Thr Leu Val Ser Tyr Ile Val Gln Ile Leu Ser
Arg Tyr Asp Ile Ala Leu Val Gln Glu Val Arg Asp Ser His Leu
Thr Ala Val Gly Lys Leu Leu Asp Asn Leu Asn Gln Asp Ala Pro
Asp Thr Tyr His Tyr Val Val Ser Glu Pro Leu Gly Arg Asn Ser
Tyr Lys Glu Arg Tyr Leu Phe Val Tyr Arg Pro Asp Gln Val Ser
                                      85
```

```
Ala Val Asp Ser Tyr Tyr Tyr Asp Asp Gly Cys Glu Pro Cys Gly
 Asn Asp Thr Phe Asn Arg Glu Pro Ala Ile Val Arg Phe Phe Ser
                                      115
 Arg Phe Thr Glu Val Arg Glu Phe Ala Ile Val Pro Leu His Ala
                 125
                                                          135
 Ala Pro Gly Asp Ala Val Ala Glu Ile Asp Ala Leu Tyr Asp Val
                 140
 Tyr Leu Asp Val Gln Glu Lys Trp Gly Leu Glu Asp Val Met Leu
                 155
                                      160
                                                          165
 Met Gly Asp Phe Asn Ala Gly Cys Ser Tyr Val Arg Pro Ser Gln
                 170
                                      175
 Trp Ser Ser Ile Arg Leu Trp Thr Ser Pro Thr Phe Gln Trp Leu
                 185
                                      190
                                                          195
 Ile Pro Asp Ser Ala Asp Thr Thr Ala Thr Pro Thr His Cys Ala
                                      205
 Tyr Asp Arg Ile Val Val Ala Gly Met Leu Leu Arg Gly Ala Val
                 215
                                      220
Val Pro Asp Ser Ala Leu Pro Phe Asn Phe Gln Ala Ala Tyr Gly
                 230
                                      235
Leu Ser Asp Gln Leu Ala Gln Ala Ile Ser Asp His Tyr Pro Val
Glu Val Met Leu Lys
                 260
<210> 4
<211> 260
<212> PRT
<213> Homo sapiens
<400> 4
Leu Lys Ile Ala Ala Phe Asn Ile Gln Thr Phe Gly Arg Thr Lys
Met Ser Asn Ala Thr Leu Val Ser Tyr Ile Val Gln Ile Leu Ser
Arg Tyr Asp Ile Ala Leu Val Gln Glu Val Arg Asp Ser His Leu
Thr Ala Val Gly Lys Leu Leu Asp Asn Leu Asn Gln Asp Ala Pro
```

```
Asp Thr Tyr His Tyr Val Val Ser Glu Pro Leu Gly Arg Asn Ser
 Tyr Lys Glu Arg Tyr Leu Phe Val Tyr Arg Pro Asp Gln Val Ser
 Ala Val Asp Ser Tyr Tyr Tyr Asp Asp Gly Cys Glu Pro Cys Gly
 Asn Asp Thr Phe Asn Arg Glu Pro Ala Ile Val Arg Phe Phe Ser
 Arg Phe Thr Glu Val Arg Glu Phe Ala Ile Val Pro Leu His Ala
                 125
                                      130
 Ala Pro Gly Asp Ala Val Ala Glu Ile Asp Ala Leu Tyr Asp Val
 Tyr Leu Asp Val Gln Glu Lys Trp Gly Leu Glu Asp Val Met Leu
                 155
                                      160
                                                          165
 Met Gly Asp Phe Asn Ala Gly Cys Ser Tyr Val Arg Pro Ser Gln
                 170
 Trp Ser Ser Ile Arg Leu Trp Thr Ser Pro Thr Phe Gln Trp Leu
                 185
                                      190
                                                          195
 Ile Pro Asp Ser Ala Asp Thr Thr Ala Thr Pro Thr His Cys Ala
                 200
                                      205
 Tyr Asp Arg Ile Val Val Ala Gly Met Leu Leu Arg Gly Ala Val
                 215
                                      220
 Val Pro Asp Ser Ala Leu Pro Phe Asn Phe Gln Ala Ala Tyr Gly
                 230
                                      235
 Leu Ser Asp Gln Leu Ala Gln Ala Ile Ser Asp His Tyr Pro Val
 Glu Val Met Leu Lys
                 260
<210> 5
<211> 260
<212> PRT
<213> Homo sapiens
<400> 5
Leu Lys Ile Ala Ala Phe Asn Ile Gln Thr Phe Gly Glu Lys Lys
Met Ser Asn Ala Thr Leu Val Ser Tyr Ile Val Gln Ile Leu Ser
```

```
Arg Tyr Asp Ile Ala Leu Val Gln Glu Val Arg Asp Ser His Leu
 Thr Ala Val Gly Lys Leu Leu Asp Asn Leu Asn Gln Asp Ala Pro
 Asp Thr Tyr His Tyr Val Val Ser Glu Pro Leu Gly Arg Asn Ser
 Tyr Lys Glu Arg Tyr Leu Phe Val Tyr Arg Pro Asp Gln Val Ser
 Ala Val Asp Ser Tyr Tyr Tyr Asp Asp Gly Cys Glu Pro Cys Gly
 Asn Asp Thr Phe Asn Arg Glu Pro Ala Ile Val Arg Phe Phe Ser
                                      115
                 110
 Arg Phe Thr Glu Val Arg Glu Phe Ala Ile Val Pro Leu His Ala
                 125
                                      130
 Ala Pro Gly Asp Ala Val Ala Glu Ile Asp Ala Leu Tyr Asp Val
 Tyr Leu Asp Val Gln Glu Lys Trp Gly Leu Glu Asp Val Met Leu
                 155
 Met Gly Asp Phe Asn Ala Gly Cys Ser Tyr Val Arg Pro Ser Gln
                 170
                                      175
 Trp Ser Ser Ile Arg Leu Trp Thr Ser Pro Thr Phe Gln Trp Leu
                 185
                                      190
 Ile Pro Asp Ser Ala Asp Thr Thr Ala Thr Pro Thr His Cys Ala
                 200
                                      205
 Tyr Asp Arg Ile Val Val Ala Gly Met Leu Leu Arg Gly Ala Val
                 215
                                      220
 Val Pro Asp Ser Ala Leu Pro Phe Asn Phe Gln Ala Ala Tyr Gly
                 230
                                      235
 Leu Ser Asp Gln Leu Ala Gln Ala Ile Ser Asp His Tyr Pro Val
Glu Val Met Leu Lys
                 260
<210> 6
<211> 260
<212> PRT
<213> Homo sapiens
```

<400> 6

Leu 1	Lys	Ile	Ala	Ala 5	Phe	Asn	Ile	Gln	Thr 10	Phe	Gly	Glu	Arg	Lys 15
Met	Ser	Asn	Ala	Thr 20	Leu	Val	Ser	Tyr	Ile 25	Val	Gln	Ile	Leu	Ser 30
Arg	Tyr	Asp	Ile	Ala 35	Leu	Val	Gln	Glu	Val 40	Arg	Asp	Ser	His	Leu 45
Thr	Ala	Val	Gly	Lys 50	Leu	Leu	Asp	Asn	Leu 55	Asn	Gln	Asp	Ala	Pro 60
Asp	Thr	Tyr	His	Tyr 65	Val	Val	Ser	Glu	Pro 70	Leu	Gly	Arg	Asn	Ser 75
Tyr	Lys	Glu	Arg	Tyr 80	Leu	Phe	Val	Tyr	Arg 85	Pro	Asp	Gln	Val	Ser 90
Ala	Val	Asp	Ser	Tyr 95	Tyr	Tyr	Asp	Asp	Gly 100	Cys	Glu	Pro	Суз	Gly 105
Asn	Asp	Thr	Phe	Asn 110	Arg	Glu	Pro	Ala	Ile 115	Val	Arg	Phe	Phe	Ser 120
Arg	Phe	Thr	Glu	Val 125	Arg	Glu	Phe	Ala	Ile 130	Val	Pro	Leu	His	Ala 135
Ala	Pro	Gly	Asp	Ala 140	Val	Ala	Glu	Ile	Asp 145	Ala	Leu	Tyr	Asp	Val 150
Tyr	Leu	Asp	Val	Gln 155	Glu	Lys	Trp	Gly	Leu 160	Glu	Asp	Val	Met	Leu 165
Met	Gly	Asp	Phe	Asn 170	Ala	Gly	Суз	Ser	Tyr 175	Val	Arg	Pro	Ser	Gln 180
Trp	Ser	Ser	Ile	Arg 185	Leu	Trp	Thr	Ser	Pro 190	Thr	Phe	Gln	Trp	Leu 195
Ile	Pro	Asp	Ser	Ala 200	Asp	Thr	Thr	Ala	Thr 205	Pro	Thr	His	Cys	Ala 210
Tyr	Asp	Arg	Ile	Val 215	Val	Ala	Gly	Met	Leu 220	Leu	Arg	Gly	Ala	Val 225
Val	Pro	Asp	Ser	Ala 230	Leu	Pro	Phe	Asn	Phe 235	Gln	Ala	Ala	Tyr	Gly 240
Leu	Ser	Asp	Gln	Leu 245	Ala	Gln	Ala	Ile	Ser 250	Asp	His	Tyr	Pro	Val 255
Glu	Val	Met	Leu	Lys 260										

<210: <211: <212: <213:	> 26 > PR'	Γ	apie	ns										
<400 Leu 1		Ile	Ala	Ala 5	Phe	Asn	Ile	Gln	Thr 10	Phe	Gly	Glu	Thr	Lys 15
Met	Ser	Asn	Ala	Thr 20	Leu	Val	Ser	Tyr	Ile 25	Val	Gln	Ile	Leu	Ser 30
Arg	Tyr	Asp	Ile	Ala 35	Leu	Val	Gln	Glu	Val 40	Arg	Asp	Ser	Lys	Leu 45
Thr	Ala	Val	Gly	Lys 50	Leu	Leu	Asp	Asn	Leu 55	Asn	Gln	Asp	Ala	Pro 60
Asp	Thr	Tyr	His	Tyr 65	Val	Val	Ser	Glu	Pro 70	Leu	Gly	Arg	Asn	Ser 75
Tyr	Lys	Glu	Arg	Tyr 80	Leu	Phe	Val	Tyr	Arg 85	Pro	Asp	Gln	Val	Ser 90
Ala	Val	Asp	Ser	Tyr 95	Tyr	Tyr	Asp	Asp	Gly 100	Cys	Glu	Pro	Cys	Gly 105
Asn	Asp	Thr	Phe	Asn 110	Arg	Glu	Pro	Ala	Ile 115	Val	Arg	Phe	Phe	Ser 120
Arg	Phe	Thr	Glu	Val 125	Arg	Glu	Phe	Ala	Ile 130	Val	Pro	Leu	His	Ala 135
Ala	Pro	Gly	Asp	Ala 140	Val	Ala	Glu	Ile	Asp 145	Ala	Leu	Tyr	Asp	Val 150
Tyr	Leu	Asp	Val	Gln 155	Glu	Lys	Trp	Gly	Leu 160	Glu	Asp	Val	Met	Leu 165
Met	Gly	Asp	Phe	Asn 170	Ala	Gly	Cys	Ser	Tyr 175	Val	Arg	Pro	Ser	Gln 180
Trp	Ser	Ser	Ile	Arg 185	Leu	Trp	Thr	Ser	Pro 190	Thr	Phe	Gln	Trp	Leu 195
Ile	Pro	Asp	Ser	Ala 200	Asp	Thr	Thr	Ala	Thr 205	Pro	Thr	His	Cys	Ala 210
Tyr	Asp	Arg	Ile	Val 215	Val	Ala	Gly	Met	Leu 220	Leu	Arg	Gly	Ala	Val 225
Val	Pro	Asp	Ser	Ala 230	Leu	Pro	Phe	Asn	Phe 235	Gln	Ala	Ala	Tyr	Gly 240

Leu	Ser	Asp	Gln	Leu 245	Ala	Gln	Ala	Ile	Ser 250	Asp	His	Tyr	Pro	Val 255
Glu	Val	Met	Leu	Lys 260										
<2103 <2113 <2123 <2133	> 260 > PR	Г	apie	ns										
<4002 Leu 1		Ile	Ala	Ala 5	Phe	Asn	Ile	Gln	Thr 10	Phe	Gly	Glu	Thr	Lys 15
Met	Ser	Asn	Ala	Thr 20	Leu	Val	Ser	Tyr	Ile 25	Val	Gln	Ile	Leu	Ser 30
Arg	Tyr	Asp	Ile	Ala 35	Leu	Val	Gln	Glu	Val 40	Arg	Asp	Ser	Arg	Leu 45
Thr	Ala	Val	Gly	Lys 50	Leu	Leu	Asp	Asn	Leu 55	Asn	Gln	Asp	Ala	Pro 60
Asp	Thr	Tyr	His	Tyr 65	Val	Val	Ser	Glu	Pro 70	Leu	Gly	Arg	Asn	Ser 75
Tyr	Lys	Glu	Arg	Tyr 80	Leu	Phe	Val	Tyr	Arg 85	Pro	Asp	Gln	Val	Ser 90
Ala	Val	Asp	Ser	Tyr 95	Tyr	Tyr	Asp	Asp	Gly 100	Cys	Glu	Pro	Cys	Gly 105
Asn	Asp	Thr	Phe	Asn 110	Arg	Glu	Pro	Ala	Ile 115	Val	Arg	Phe	Phe	Ser 120
Arg	Phe	Thr	Glu	Val 125	Arg	Glu	Phe	Ala	Ile 130	Val	Pro	Leu	His	Ala 135
Ala	Pro	Gly	Asp	Ala 140	Val	Ala	Glu	Ile	Asp 145	Ala	Leu	Tyr	Asp	Val 150
Tyr	Leu	Asp	Val	Gln 155	Glu	Lys	Trp	Gly	Leu 160	Glu	Asp	Val	Met	Leu 165
Met	Gly	Asp	Phe	Asn 170	Ala	Gly	Cys	Ser	Tyr 175	Val	Arg	Pro	Ser	Gln 180
Trp	Ser	Ser	Ile	Arg 185	Leu	Trp	Thr	Ser	Pro 190	Thr	Phe	Gln	Trp	Leu 195
Ile	Pro	Asp	Ser	Ala 200	Asp	Thr	Thr	Ala	Thr 205	Pro	Thr	His	Cys	Ala 210

Tyr	Asp	Arg	Ile	Val 215	Val	Ala	Gly	Met	Leu 220	Leu	Arg	Gly	Ala	Val 225
Val	Pro	Asp	Ser	Ala 230	Leu	Pro	Phe	Asn	Phe 235	Gln	Ala	Ala	Tyr	Gly 240
Leu	Ser	Asp	Gln	Leu 245	Ala	Gln	Ala	Ile	Ser 250	Asp	His	Tyr	Pro	Val 255
Glu	Val	Met	Leu	Lys 260										
<210: <211: <212: <213:	> 260 > PR	Г	apie	ns										
<400													_	
Leu 1	Lys	Ile	Ala	Ala 5	Phe	Asn	Ile	Gln	Thr 10	Phe	Gly	Glu	Thr	Lys 15
Met	Ser	Asn	Ala	Thr 20	Leu	Val	Ser	Tyr	Ile 25	Val	Gln	Ile	Leu	Ser 30
Arg	Tyr	Asp	Ile	Ala 35	Leu	Val	Gln	Glu	Val 40	Arg	Asp	Ser	His	Leu 45
Thr	Ala	Val	Gly	Lys 50	Leu	Leu	Asp	Asn	Leu 55	Asn	Gln	Asp	Ala	Pro 60
Asp	Thr	Tyr	His	Tyr 65	Val	Val	Ser	Glu	Pro 70	Leu	Gly	Arg	Lys	Ser 75
Tyr	Lys	Glu	Arg	Tyr 80	Leu	Phe	Val	Tyr	Arg 85	Pro	Asp	Gln	Val	Ser 90
Ala	Val	Asp	Ser	Tyr 95	Tyr	Tyr	Asp	Asp	Gly 100	Cys	Glu	Pro	Cys	Gly 105
Asn	Asp	Thr	Phe	Asn 110	Arg	Glu	Pro	Ala	Ile 115	Val	Arg	Phe	Phe	Ser 120
Arg	Phe	Thr	Glu	Val 125	Arg	Glu	Phe	Ala	Ile 130	Val	Pro	Leu	His	Ala 135
Ala	Pro	Gly	Asp	Ala 140	Val	Ala	Glu	Ile	Asp 145	Ala	Leu	Tyr	Asp	Val 150
Tyr	Leu	Asp	Val	Gln 155	Glu	Lys	Trp	Gly	Leu 160	Glu	Asp	Val	Met	Leu 165
Met	Gly	Asp	Phe	Asn 170	Ala	Gly	Cys	Ser	Tyr 175	Val	Arg	Pro	Ser	Gln 180

Trp	Ser	Ser	Ile	Arg 185	Leu	Trp	Thr	Ser	Pro 190	Thr	Phe	Gln	Trp	Leu 195
Ile	Pro	Asp	Ser	Ala 200	Asp	Thr	Thr	Ala	Thr 205	Pro	Thr	His	Cys	Ala 210
Tyr	Asp	Arg	Ile	Val 215	Val	Ala	Gly	Met	Leu 220	Leu	Arg	Gly	Ala	Val 225
Val	Pro	Asp	Ser	Ala 230	Leu	Pro	Phe	Asn	Phe 235	Gln	Ala	Ala	Tyr	Gly 240
Leu	Ser	Asp	Gln	Leu 245	Ala	Gln	Ala	Ile	Ser 250	Asp	His	Tyr	Pro	Val 255
Glu	Val	Met	Leu	Lys 260										
<210; <211; <212; <213;	> 260 > PR	Γ	apier	ns										
<4002 Leu 1		Ile	Ala	Ala 5	Phe	Asn	Ile	Gln	Thr 10	Phe	Gly	Glu	Thr	Lys 15
Met	Ser	Asn	Ala	Thr 20	Leu	Val	Ser	Tyr	Ile 25	Val	Gln	Ile	Leu	Ser 30
Arg	Tyr	Asp	Ile	Ala 35	Leu	Val	Gln	Glu	Val 40	Arg	Asp	Ser	His	Leu 45
Thr	Ala	Val	Gly	Lys 50	Leu	Leu	Asp	Asn	Leu 55	Asn	Gln	Asp	Ala	Pro 60
Asp	Thr	Tyr	His	Tyr 65	Val	Val	Ser	Glu	Pro 70	Leu	Gly	Arg	Arg	Ser 75
Tyr	Lys	Glu	Arg	Tyr 80	Leu	Phe	Val	Tyr	Arg 85	Pro	Asp	Gln	Val	Ser 90
Ala	Val	Asp	Ser	Tyr 95	Tyr	Tyr	Asp	Asp	Gly 100	Cys	Glu	Pro	Cys	Gly 105
Asn	Asp	Thr	Phe	Asn 110	Arg	Glu	Pro	Ala	Ile 115	Val	Arg	Phe	Phe	Ser 120
Arg	Phe	Thr	Glu	Val 125	Arg	Glu	Phe	Ala	Ile 130	Val	Pro	Leu	His	Ala 135
Ala	Pro	Gly	Asp	Ala 140	Val	Ala	Glu	Ile	Asp 145	Ala	Leu	Tyr	Asp	Val 150

GIU LYS	Trp Gly	Leu 160	Glu	Asp	Val	Met	Leu 165
Ala Gly	Cys Ser	Tyr 175	Val	Arg	Pro	Ser	Gln 180
Leu Trp	Thr Ser	Pro 190	Thr	Phe	Gln	Trp	Leu 195
Asp Thr	Thr Ala	Thr 205	Pro	Thr	His	Cys	Ala 210
Val Ala	Gly Met	Leu 220	Leu	Arg	Gly	Ala	Val 225
Leu Pro	Phe Asn	Phe 235	Gln	Ala	Ala	Tyr	Gly 240
Ala Gln	Ala Ile	Ser 250	Asp	His	Tyr	Pro	Val 255
Phe Asn	Ile Gln		Phe	Gly	Glu	Thr	
	Ile Gln Ser Tyr	10		_			15
Leu Val		10 Ile 25	Val	Gln	Ile	Leu	15 Ser 30
Leu Val Leu Val	Ser Tyr	10 Ile 25 Val 40	Val Arg	Gln Asp	Ile Ser	Leu His	15 Ser 30 Leu 45
Leu Val Leu Val Leu Leu	Ser Tyr Gln Glu	10 Ile 25 Val 40 Leu 55	Val Arg Asn	Gln Asp Gln	Ile Ser Asp	Leu His Ala	15 Ser 30 Leu 45 Pro 60
Leu Val Leu Val Leu Leu Val Val	Ser Tyr Gln Glu Asp Asn	10 Ile 25 Val 40 Leu 55 Pro 70	Val Arg Asn Leu	Gln Asp Gln Gly	Ile Ser Asp	Leu His Ala Asn	Ser 30 Leu 45 Pro 60 Lys
Leu Val Leu Leu Val Val Leu Phe	Ser Tyr Gln Glu Asp Asn Ser Glu	10 Ile 25 Val 40 Leu 55 Pro 70 Arg 85	Val Arg Asn Leu Pro	Gln Asp Gln Gly Asp	Ile Ser Asp Arg	Leu His Ala Asn Val	Ser 30 Leu 45 Pro 60 Lys 75 Ser
]	Leu Trp Asp Thr Val Ala Leu Pro	Leu Trp Thr Ser Asp Thr Thr Ala Val Ala Gly Met Leu Pro Phe Asn	Leu Trp Thr Ser Pro 190 Asp Thr Thr Ala Thr 205 Val Ala Gly Met Leu 220 Leu Pro Phe Asn Phe 235 Ala Gln Ala Ile Ser	Leu Trp Thr Ser Pro Thr 190 Asp Thr Thr Ala Thr Pro 205 Val Ala Gly Met Leu Leu 220 Leu Pro Phe Asn Phe Gln 235 Ala Gln Ala Ile Ser Asp	Leu Trp Thr Ser Pro Thr Phe 190 Asp Thr Thr Ala Thr Pro Thr 205 Val Ala Gly Met Leu Leu Arg 220 Leu Pro Phe Asn Phe Gln Ala 235 Ala Gln Ala Ile Ser Asp His	Leu Trp Thr Ser Pro Thr Phe Gln 190 Asp Thr Thr Ala Thr Pro Thr His 205 Val Ala Gly Met Leu Leu Arg Gly 220 Leu Pro Phe Asn Phe Gln Ala Ala 235 Ala Gln Ala Ile Ser Asp His Tyr	Leu Trp Thr Ser Pro Thr Phe Gln Trp 190 Asp Thr Thr Ala Thr Pro Thr His Cys 205 Val Ala Gly Met Leu Leu Arg Gly Ala 220 Leu Pro Phe Asn Phe Gln Ala Ala Tyr 235 Ala Gln Ala Ile Ser Asp His Tyr Pro

Arg	Phe	Thr	Glu	Val 125	Arg	Glu	Phe	Ala	Ile 130	Val	Pro	Leu	His	Ala 135
Ala	Pro	Gly	Asp	Ala 140	Val	Ala	Glu	Ile	Asp 145	Ala	Leu	Tyr	Asp	Val 150
Tyr	Leu	Asp	Val	Gln 155	Glu	Lys	Trp	Gly	Leu 160	Glu	Asp	Val	Met	Leu 165
Met	Gly	Asp	Phe	Asn 170	Ala	Gly	Суз	Ser	Tyr 175	Val	Arg	Pro	Ser	Gln 180
Trp	Ser	Ser	Ile	Arg 185	Leu	Trp	Thr	Ser	Pro 190	Thr	Phe	Gln	Trp	Leu 195
Ile	Pro	Asp	Ser	Ala 200	Asp	Thr	Thr	Ala	Thr 205	Pro	Thr	His	Суз	Ala 210
Tyr	Asp	Arg	Ile	Val 215	Val	Ala	Gly	Met	Leu 220	Leu	Arg	Gly	Ala	Val 225
Val	Pro	Asp	Ser	Ala 230	Leu	Pro	Phe	Asn	Phe 235	Gln	Ala	Ala	Tyr	Gly 240
Leu	Ser	Asp	Gln	Leu 245	Ala	Gln	Ala	Ile	Ser 250	Asp	His	Tyr	Pro	Val 255
Glu	Val	Met	Leu	Lys 260										
<210; <211; <212; <213;	> 260 > PRI	ľ	apier	ns										
<400>	> 12													
Leu 1	Lys	Ile	Ala	Ala 5	Phe	Asn	Ile	Gln	Thr 10	Phe	Gly	Glu	Thr	Lys 15
Met	Ser	Asn	Ala	Thr 20	Leu	Val	Ser	Tyr	Ile 25	Val	Gln	Ile	Leu	Ser 30
Arg	Tyr	Asp	Ile	Ala 35	Leu	Val	Gln	Glu	Val 40	Arg	Asp	Ser	His	Leu 45
Thr	Ala	Val	Gly	Lys 50	Leu	Leu	Asp	Asn	Leu 55	Asn	Gln	Asp	Ala	Pro 60
Asp	Thr	Tyr	His	Tyr 65	Val	Val	Ser	Glu	Pro 70	Leu	Gly	Arg	Asn	Ser 75
Tyr	Lys	Glu	Arg	Tyr 80	Leu	Phe	Val	Tyr	Arg 85	Pro	Asp	Gln	Val	Ser 90

```
Ala Val Asp Ser Tyr Tyr Tyr Asp Asp Gly Cys Glu Pro Cys Gly
 Asn Asp Thr Phe Asn Arg Glu Pro Ala Ile Val Arg Phe Phe Ser
 Arg Phe Thr Glu Val Arg Glu Phe Ala Ile Val Pro Leu His Ala
                 125
 Ala Pro Gly Asp Ala Val Ala Glu Ile Asp Ala Leu Tyr Asp Val
 Tyr Leu Asp Val Gln Glu Lys Trp Gly Leu Glu Asp Val Met Leu
                 155
                                      160
                                                          165
 Met Gly Asp Phe Asn Ala Gly Cys Ser Tyr Val Arg Pro Ser Gln
                 170
 Trp Ser Ser Ile Arg Leu Trp Thr Ser Pro Thr Phe Gln Trp Leu
                 185
                                      190
                                                          195
 Ile Pro Asp Ser Ala Asp Thr Thr Ala Lys Pro Thr His Cys Ala
                                      205
 Tyr Asp Arg Ile Val Val Ala Gly Met Leu Leu Arg Gly Ala Val
                 215
                                      220
                                                          225
Val Pro Asp Ser Ala Leu Pro Phe Asn Phe Gln Ala Ala Tyr Gly
Leu Ser Asp Gln Leu Ala Gln Ala Ile Ser Asp His Tyr Pro Val
Glu Val Met Leu Lys
<210> 13
<211> 260
<212> PRT
<213> Homo sapiens
<400> 13
Leu Lys Ile Ala Ala Phe Asn Ile Gln Thr Phe Gly Glu Thr Lys
Met Ser Asn Ala Thr Leu Val Ser Tyr Ile Val Gln Ile Leu Ser
Arg Tyr Asp Ile Ala Leu Val Gln Glu Val Arg Asp Ser His Leu
Thr Ala Val Gly Lys Leu Leu Asp Asn Leu Asn Gln Asp Ala Pro
                  50
                                      55
```

```
Asp Thr Tyr His Tyr Val Val Ser Glu Pro Leu Gly Arg Asn Ser
 Tyr Lys Glu Arg Tyr Leu Phe Val Tyr Arg Pro Asp Gln Val Ser
 Ala Val Asp Ser Tyr Tyr Tyr Asp Asp Gly Cys Glu Pro Cys Gly
                                                           105
                                      100
 Asn Asp Thr Phe Asn Arg Glu Pro Ala Ile Val Arg Phe Phe Ser
                 110
 Arg Phe Thr Glu Val Arg Glu Phe Ala Ile Val Pro Leu His Ala
                 125
                                      130
 Ala Pro Gly Asp Ala Val Ala Glu Ile Asp Ala Leu Tyr Asp Val
 Tyr Leu Asp Val Gln Glu Lys Trp Gly Leu Glu Asp Val Met Leu
                 155
                                      160
                                                          165
 Met Gly Asp Phe Asn Ala Gly Cys Ser Tyr Val Arg Pro Ser Gln
                 170
                                      175
 Trp Ser Ser Ile Arg Leu Trp Thr Ser Pro Thr Phe Gln Trp Leu
                 185
                                      190
                                                           195
 Ile Pro Asp Ser Ala Asp Thr Thr Ala Arg Pro Thr His Cys Ala
                 200
 Tyr Asp Arg Ile Val Val Ala Gly Met Leu Leu Arg Gly Ala Val
                 215
                                      220
                                                          225
Val Pro Asp Ser Ala Leu Pro Phe Asn Phe Gln Ala Ala Tyr Gly
                 230
                                      235
Leu Ser Asp Gln Leu Ala Gln Ala Ile Ser Asp His Tyr Pro Val
                                      250
Glu Val Met Leu Lys
                 260
<210> 14
<211> 260
<212> PRT
<213> Homo sapiens
<400> 14
Leu Lys Ile Ala Ala Phe Asn Ile Gln Thr Phe Gly Arg Thr Lys
Met Ser Asn Ala Thr Leu Val Ser Tyr Ile Val Gln Ile Leu Ser
                  20
```

```
Arg Tyr Asp Ile Ala Leu Val Gln Glu Val Arg Asp Ser His Leu
 Thr Ala Val Gly Lys Leu Leu Asp Asn Leu Asn Gln Asp Ala Pro
 Asp Thr Tyr His Tyr Val Val Ser Glu Pro Leu Gly Arg Lys Ser
 Tyr Lys Glu Arg Tyr Leu Phe Val Tyr Arg Pro Asp Gln Val Ser
 Ala Val Asp Ser Tyr Tyr Tyr Asp Asp Gly Cys Glu Pro Cys Gly
                  95
                                      100
                                                           105
 Asn Asp Thr Phe Asn Arg Glu Pro Ala Ile Val Arg Phe Phe Ser
                 110
                                      115
 Arg Phe Thr Glu Val Arg Glu Phe Ala Ile Val Pro Leu His Ala
                 125
                                      130
                                                           135
 Ala Pro Gly Asp Ala Val Ala Glu Ile Asp Ala Leu Tyr Asp Val
                 140
                                      145
 Tyr Leu Asp Val Gln Glu Lys Trp Gly Leu Glu Asp Val Met Leu
                 155
                                      160
                                                           165
 Met Gly Asp Phe Asn Ala Gly Cys Ser Tyr Val Arg Pro Ser Gln
                 170
                                      175
 Trp Ser Ser Ile Arg Leu Trp Thr Ser Pro Thr Phe Gln Trp Leu
                 185
                                      190
                                                           195
 Ile Pro Asp Ser Ala Asp Thr Thr Ala Thr Pro Thr His Cys Ala
                 200
                                      205
 Tyr Asp Arg Ile Val Val Ala Gly Met Leu Leu Arg Gly Ala Val
                 215
                                      220
                                                           225
 Val Pro Asp Ser Ala Leu Pro Phe Asn Phe Gln Ala Ala Tyr Gly
                 230
                                      235
 Leu Ser Asp Gln Leu Ala Gln Ala Ile Ser Asp His Tyr Pro Val
                                                           255
 Glu Val Met Leu Lys
                 260
<210> 15
<211> 260
<212> PRT
<213> Homo sapiens
<400> 15
```

Leu 1	Lys	Ile	Ala	Ala 5	Phe	Asn	Ile	Arg	Thr 10	Phe	Gly	Arg	Thr	Lys 15
Met	Ser	Asn	Ala	Thr 20	Leu	Val	Ser	Tyr	Ile 25	Val	Gln	Ile	Leu	Ser 30
Arg	Tyr	Asp	Ile	Ala 35	Leu	Val	Gln	Glu	Val 40	Arg	Asp	Ser	His	Leu 45
Thr	Ala	Val	Gly	Lys 50	Leu	Leu	Asp	Asn	Leu 55	Asn	Gln	Asp	Ala	Pro 60
Asp	Thr	Tyr	His	Tyr 65	Val	Val	Ser	Glu	Pro 70	Leu	Gly	Arg	Lys	Ser 75
Tyr	Lys	Glu	Arg	Tyr 80	Leu	Phe	Val	Tyr	Arg 85	Pro	Asp	Gln	Val	Ser 90
Ala	Val	Asp	Ser	Tyr 95	Tyr	Tyr	Asp	Asp	Gly 100	Cys	Glu	Pro	Cys	Gly 105
Asn	Asp	Thr	Phe	Asn 110	Arg	Glu	Pro	Ala	Ile 115	Val	Arg	Phe	Phe	Ser 120
Arg	Phe	Thr	Glu	Val 125	Arg	Glu	Phe	Ala	Ile 130	Val	Pro	Leu	His	Ala 135
Ala	Pro	Gly	Asp	Ala 140	Val	Ala	Glu	Ile	Asp 145	Ala	Leu	Tyr	Asp	Val 150
Tyr	Leu	Asp	Val	Gln 155	Glu	Lys	Trp	Gly	Leu 160	Glu	Asp	Val	Met	Leu 165
Met	Gly	Asp	Phe	Asn 170	Ala	Gly	Cys	Ser	Tyr 175	Val	Arg	Pro	Ser	Gln 180
Trp	Ser	Ser	Ile	Arg 185	Leu	Trp	Thr	Ser	Pro 190	Thr	Phe	Gln	Trp	Leu 195
Ile	Pro	Asp	Ser	Ala 200	Asp	Thr	Thr	Ala	Thr 205	Pro	Thr	His	Cys	Ala 210
Tyr	Asp	Arg	Ile	Val 215	Val	Ala	Gly	Met	Leu 220	Leu	Arg	Gly	Ala	Val 225
Val	Pro	Asp	Ser	Ala 230	Leu	Pro	Phe	Asn	Phe 235	Gln	Ala	Ala	Tyr	Gly 240
Leu	Ser	Asp	Gln	Leu 245	Ala	Gln	Ala	Ile	Ser 250	Asp	His	Tyr	Pro	Val 255
Glu	Val	Met	Leu	Lys 260										

<210: <211: <212: <213:	> 260 > PR	Г	apie	ns								-		
<4002 Leu 1		Ile	Ala	Ala 5	Phe	Asn	Ile	Gln	Thr 10	Phe	Gly	Arg	Thr	Lys 15
Met	Ser	Asn	Ala	Thr 20	Leu	Val	Ser	Tyr	Ile 25	Val	Gln	Ile	Leu	Ser 30
Arg	Tyr	Asp	Ile	Ala 35	Leu	Val	Gln	Glu	Val 40	Arg	Asp	Ser	His	Leu 45
Thr	Ala	Val	Gly	Lys 50	Leu	Leu	Asp	Asn	Leu 55	Asn	Gln	Asp	Ala	Pro 60
Asp	Thr	Tyr	His	Tyr 65	Val	Val	Ser	Glu	Pro 70	Leu	Gly	Arg	Lys	Ser 75
Tyr	Lys	Glu	Arg	Tyr 80	Leu	Phe	Val	Tyr	Arg 85	Pro	Asp	Gln	Val	Ser 90
Ala	Val	Asp	Ser	Tyr 95	Tyr	Tyr	Asp	Asp	Gly 100	Суѕ	Glu	Pro	Суз	Gly 105
Asn	Asp	Thr	Phe	Asn 110	Arg	Glu	Pro	Ala	Ile 115	Val	Arg	Phe	Phe	Ser 120
Arg	Phe	Thr	Glu	Val 125	Arg	Glu	Phe	Ala	Ile 130	Val	Pro	Leu	His	Ala 135
Ala	Pro	Gly	Asp	Ala 140	Val	Ala	Glu	Ile	Asp 145	Ala	Leu	Tyr	Asp	Val 150
Tyr	Leu	Asp	Val	Gln 155	Glu	Lys	Trp	Gly	Leu 160	Glu	Asp	Val	Met	Leu 165
Met	Gly	Asp	Phe	Asn 170	Ala	Gly	Cys	Ser	Tyr 175	Val	Arg	Pro	Ser	Gln 180
Trp	Ser	Ser	Ile	Arg 185	Leu	Trp	Thr	Ser	Pro 190	Thr	Phe	Gln	Trp	Leu 195
Ile	Pro	Asp	Ser	Ala 200	Asp	Thr	Thr	Ala	Lys 205	Pro	Thr	His	Cys	Ala 210
Tyr	Asp	Arg	Ile	Val 215	Val	Ala	Gly	Met	Leu 220	Leu	Arg	Gly	Ala	Val 225
Val	Pro	Asp	Ser	Ala 230	Leu	Pro	Phe	Asn	Phe 235	Gln	Ala	Ala	Tyr	Gly 240

Leu	Ser	Asp	Gln	Leu 245	Ala	Gln	Ala	Ile	Ser 250	Asp	His	Tyr	Pro	Val 255
Glu	Val	Met	Leu	Lys 260										
<2103 <2113 <2123 <2133	> 260 > PR	Γ	apier	ns						-				
<400 Leu 1		Ile	Ala	Ala 5	Phe	Asn	Ile	Arg	Thr 10	Phe	Gly	Arg	Thr	Lys 15
Met	Ser	Asn	Ala	Thr 20	Leu	Val	Ser	Tyr	Ile 25	Val	Gln	Ile	Leu	Ser 30
Arg	Tyr	Asp	Ile	Ala 35	Leu	Val	Gln	Glu	Val 40	Arg	Asp	Ser	His	Leu 45
Thr	Ala	Val	Gly	Lys 50	Leu	Leu	Asp	Asn	Leu 55	Asn	Gln	Asp	Ala	Pro 60
Asp	Thr	Tyr	His	Tyr 65	Val	Val	Ser	Glu	Pro 70	Leu	Gly	Arg	Lys	Ser 75
Tyr	Lys	Glu	Arg	Tyr 80	Leu	Phe	Val	Tyr	Arg 85	Pro	Asp	Gln	Val	Ser 90
Ala	Val	Asp	Ser	Tyr 95	Tyr	Tyr	Asp	Asp	Gly 100	Суѕ	Glu	Pro	Cys	Gly 105
Asn	Asp	Thr	Phe	Asn 110	Arg	Glu	Pro	Ala	Ile 115	Val	Arg	Phe	Phe	Ser 120
Arg	Phe	Thr	Glu	Val 125	Arg	Glu	Phe	Ala	Ile 130	Val	Pro	Leu	His	Ala 135
Ala	Pro	Gly	Asp	Ala 140	Val	Ala	Glu	Ile	Asp 145	Ala	Leu	Tyr	Asp	Val 150
Tyr	Leu	Asp	Val	Gln 155	Glu	Lys	Trp	Gly	Leu 160	Glu	Asp	Val	Met	Leu 165
Met	Gly	Asp	Phe	Asn 170	Ala	Gly	Cys	Ser	Tyr 175	Val	Arg	Pro	Ser	Gln 180
Trp	Ser	Ser	Ile	Arg 185	Leu	Trp	Thr	Ser	Pro 190	Thr	Phe	Gln	Trp	Leu 195
Ile	Pro	Asp	Ser	Ala 200	Asp	Thr	Thr	Ala	Lys 205	Pro	Thr	His	Cys	Ala 210

Tyr Asp Arg Ile Val Val Ala Gly Met Leu Leu Arg Gly Ala Val 225

Val Pro Asp Ser Ala Leu Pro Phe Asn Phe Gln Ala Ala Tyr Gly 240

Leu Ser Asp Gln Leu Ala Gln Ala Ile Ser Asp His Tyr Pro Val 255

Glu Val Met Leu Lys 260